

regions, Greenland "stands highest," with 41 per cent of the Icelandic forms, but the total number of species in Iceland exceeds that of any other arctic region.

GALLØE presents the lichen flora under six aspects: (1) a list of species (284 species in 55 genera); (2) the means of propagation and dispersal; (3) the "biology" under four categories, bark lichens, epiphyllous lichens, earth lichens, and rock lichens; (4) the classification of the lichens into associations; (5) the vertical distribution of the lichens; and (6) the abundance of lichens in Iceland. The classification into associations is based upon the character of the substratum and of the vascular plants. Iceland is shown to have a lichen vegetation poor in species in proportion to its area. Epiphyllous lichens are entirely lacking in such a climate, and bark lichens are scanty in their occurrence. On the contrary, the conditions for the development of earth and rock lichens are better than in the temperate or tropical regions. It follows that, in spite of the rigorous climate, the soil and rocks show a large number of specimens. The lack of data regarding moss development is regretted, and an effort is made to remedy it by presenting the frequency of occurrence according to the RAUNKIAER method.—J. M. C.

MINOR NOTICES

North American flora.—The fourth part of Volume 7 continues the Aecidiaceae by J. C. ARTHUR, who in collaboration with F. D. FROMME presents *Dicaeoma* on Poaceae, 88 of the 269 species listed in the analytical key being included in the present part, 43 of the names being new combinations. The tangle of synonymy involved in such a group is very impressive.—J. M. C.

NOTES FOR STUDENTS

Taxonomic notes.—BRITTON,⁷ in collaboration with several botanists, has published descriptions of 170 new species of Cuban plants, distributed among many families, and including 10 new genera as follows: *Bembicidium* and *Cānizatesia* in Leguminosae; *Ramsdenia*, *Roigia*, and *Dimorphocladium* in Euphorbiaceae; *Cheilophyllum*, *Silvinula*, *Naiadothrix*, and *Anisantherina* in Scrophulariaceae; and *Cotema* in Bignoniaceae.

WILLIAMS,⁸ in anticipation of publication in the *North American flora*, has presented the results of his study of the Calymperaceae, "partly to allow the illustration of cross-sections of the leaves to be issued with the descriptions." This family of mosses includes only the genera *Syrrhopodon* and *Calymperes*, the former containing 18 species (1 new) and the latter 12 species (3 new).

⁷ BRITTON, N. L., Descriptions of Cuban plants new to science. Mem. Torr. Bot. Club 16:57-118. 1920.

⁸ WILLIAMS, R. S., Calymperaceae of North America. Bull. Torr. Bot. Club 47:367-396. pls. 15-17. 1920.